6: Kirchhoff--36 [3] U-4 (no date) 1895 Formosans
116, 133, 491, 493, 501

A much used road leads from Tam-sui to the most important port of Ki-lung. Although it is hardly half the distance as the crow flies, one travels 52 km. up the winding Ki-lung River on the flat-bottomed boats mentioned above (as in the Philippines the natives call them banka) manned by two rowers who are helped by a third for the stretch with rapids. A number of small localities border the river, whose lower course is so shallow that the rising of the tide in it can be distinctly seen. But then follows a series of rapids in the mountainous region. Travel by boat ceases where the river comes to within 5 km. of Ki-lung Port; one transfers to the sedan-chair used in Formosa, where there are no carriages, and via a pass 200 m. high one goes down the steep mountainside facing the sea to the ... bay with its coal-bearing surroundings. Here, by way of exception, the entry into this natural harbor is without danger even for ships of greater draught, in spite of its being hemmed in by coral reefs, and the protection against storms in this bay amidst mountains is almost complete on all sides. Nevertheless no steamer can reach the town of Ki-lung, for the shore in front of this locality, which is situated at the back of the bay, is extremely soft, forming a morass at low tide traversed only by a narrow channel leading from the anchoring place. This softening is steadily increasing, for here as in the other Formosan ports the Chinese Government is doing nothing to prevent the junks' evil practise of dumping their ballast right in the anchorage

6: Kirchhoff--38 [2] U-4 (no date) 1895 Formosans
116, 206, 491, 496

But the most recent and most important advance has to do with communications. At least a beginning is being made with the construction of more substantial roads to connect the interior, the posts are being put on a systematic and unified basis and, under the first Governor, Liu-ming-tschuan, who lent an ear with unusual readiness to the counsels of foreigners, the first railroad to be approved by the Chinese Government has been built. It runs from the harbor of Ki-lung to Sin-tschu, and a continuation running via Tai-uan to Tai-nan is being prepared by means of alinement surveying (Tracenvermessung). In 1887 and 1888 the telegraph line running from Ta-kao to An-ping was carried on to Tam-sui, Tai-pe and Ki-lung, and at Tam-sui Formosa was connected by cable with the mainland, and at An-ping with the Fisher Islands.

26: Honda--469-470 N-3 (1896) 1897 Formosans
116, 491, 499, 177.49 Japan
636.49

The roads on the whole island are nothing more than narrow paths extending irregularly with corners and curves through fields. Bridges are as good as non-existent. For that reason we had to cover the entire distance to Mount Morrison on foot. [470] When the Japanese started building wide roads, the Chinese farmers were not particularly pleased and expressed the opinion that it was rather wasteful to build wide roads at the cost of useful fields; they felt that narrow paths were perfectly sufficient for pedestrians. Thus it is easy to imagine what difficulties of transportation the Japanese militia encountered when it was sent out to subdue the rebels.

497 daily. There is an increasing need for additional freight cars.[5]

The erosive soil of Formosa, frequent typhoons and floods cause damage to roadbeds, bridges, and tunnels. This is especially true for the Eastern System of the TRA; services are frequently discontinued temporarily because of the damage done the lines by floods and earthquakes.

493 The TRA seeks the modernization of equipment as well as the rehabilitation and renovation of the equipment on hand. A drive to change motive power from steam locomotives to diesel engines is underway. Diesel cars are now operating on regular runs to the four major cities on the main line, namely, Taipei, Taichung, Changhua, and Chiayi. It has been reported that two diesel cars were to begin a regular express run between Taipei and Kaohsiung in early 1956 and are expected to make the run in 5-1/2 hours.[6] The administration plans to convert all passenger trains with diesel engines. Cushioned seats, at one time provided only in "first" and "second" class cars, are now replacing wooden seats in coaches. Manual signaling devices are being replaced by automatic block signals.

III. HIGHWAY TRANSPORT

491 The highways along the west coast of the island are well developed; those on the east coast are in

5. Ibid.
6. The Asia Foundation Bulletin, Nov. 17,1955.

poor condition. An arterial highway 404 kilometers long, linking the principal ports, runs from Keelung to Kaohsiung. It has a minimum width of 21 feet (6-1/2 meters) over most of its length and can support 9-ton trucks.[7] Gravel roads connect Suao with the arterial highway, and other roads serve the southern part of the island, passing through Taitung and ending at Chihshang. There is no highway between Chichshang and Hualien. Su-hua highway, running between Suao and Hualien, is a single lane of about 28 miles (45 kilometers), passing along the face of the sea-cliffs. Construction of this road was a major engineering feat. The road is sometimes blocked by landslides. Generally, the gravel roads in Formosa are very rough and the bridges very narrow.

Currently, surveyors are at work in preparation for the building of highways across the central mountains from Tungshih to Tachien. One branch will extend to Lotung by way of Tuchang and another will connect with the Su-hua highway through Kuanyuan and Taloko Gorge.

Formosa has a comparatively small number of motor vehicles. As of the end of 1954, there were 3,875 passenger cars (654 for public hire) to a population of about 10.4 million. Almost all of the population must depend on mass transport of one kind or another. In 1954 there were 1,774 buses on the island. The Taiwan Provincial Highway Bureau, together with seventeen private companies and five city bus services carried a total of 275 million

7. T'ai-wan Kung-lu Kung-ch'eng [Taiwan Highway Engineering], Vol. 2, No. 1, Nov. 1, 1953, p. 9.

48: Chen E-4 (no date) 1955 AD1 Formosa AD1

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In 1942 there were 2,593 inhabitants per doctor, or 4 doctors per 10,000 inhabitants (computed from 14: Table 484).[9]

12. Transportation

A railroad from Keelung to Hsinchu was already constructed by the Machurian government. The railroad mileage increased gradually after the Japanese occupation. The main line from Keelung to Kaohsiung was completed by 1908. New branches, double tracks, and sidings were added rapidly, particularly during the 1920's. By 1930, the railroad system of the Japanese era was generally completed. As to passenger traffic, the number of passengers in 1931 was about 21 times of the number of 1901, and between 1931 and 1941 the number of passenger was almost tripled.[10] The mileage of highways was also rose rapidly after the 1920's (14: Table 449). It is interesting to note that, the number of bicycles, automobiles and trucks began to increase after 1920 (Fig. 4, Fig. 5). When bicycles were first imported, people were surprised by their high speed, and thought they were some magical thing. Now they became familiar with them, and utilized them more and more. This is a sign of the change of attitude among the people.

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Before transportation was developed, different localities within an area could not exchange and trade their products, and the failure of crop in one locality would cause local famine. W. S. Thompson, who stayed some months in Nanking, China, in 1930-31, reported: at that time rice was so cheap in Nanking that many farmers were going bankrupt. At the same time people were starving by the hundred of thousands (some say by the millions) in northwest China. There was no means of transportation to let the two embarassed localities help each other, so local famine was inevitable. This situation has been very common in the past. Such prosperous and well-organized countries as England, France, and Sweden had severe local famines from time to time, even during the first half of the nineteenth century (16: pp. 67-68).

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Development of transportation not only can stabilize the living of the people, but at the same time it can significantly influence the extent of the peoples' economic activity and attitudes. When transportation is poor, surplus products of one locality are useless, and people are obliged to live a self-sufficient and closed economic life. Effective transportation can change surplus products into commodities, extending the sphere of economic and social activities. Thus, a self-sufficient and closed society will change into an open, circulating society living by division of labor and exchange. In a closed society, not only are the things produced different, but customs and manners are also different. In an open and circulating society, everything will gradually become uniform through continual contact and communication. In the vital statistics of Taiwan we can see a reflection of this change. During the early years of Japanese occupation,

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Note 9: As to the situation of medical facilities in 1945, see Li, Ting-yeh: op. cit. 12. As to the comparision of the situation of Taiwan with other parts of the world, cf. 27: Table 120.

Note 10: Tang, C. W.: "Railways in Taiwan", Chinese-American Economic Cooperation, Vol. 1, No. 5, 1952, Taipei, p. 66.